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THE
HARVARD SCHOOL OF
PUBLIC HEALTH

55 VAN DYKE STREET, BOSTON, MASS.

1929-30

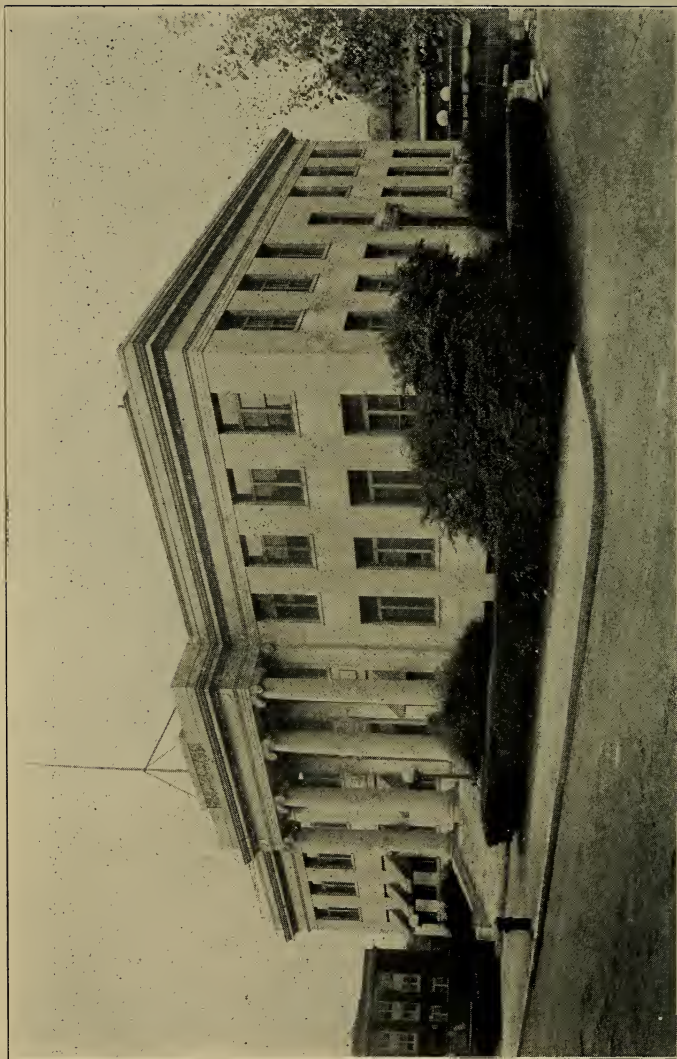


PUBLISHED BY HARVARD UNIVERSITY

ДЛЯ ПОЛНОГО РАБО

УЧАСТИЯ

С М И



HARVARD SCHOOL OF PUBLIC HEALTH

ANNOUNCEMENT
OF THE
HARVARD SCHOOL OF
PUBLIC HEALTH

55 VAN DYKE STREET, BOSTON, MASS.

OF
HARVARD UNIVERSITY
FOR

1929-30



PUBLISHED BY HARVARD UNIVERSITY

1929

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CALENDAR

1929

<i>Sept. 23, Monday.</i>	ACADEMIC YEAR BEGINS. Registration of students. Payment of the first instalment of the tuition fee is required on this date.
<i>Oct. 12, Saturday.</i>	Columbus Day: a holiday.
<i>Nov. 11, Monday.</i>	Armistice Day: a holiday.
<i>Nov. 28, Thursday.</i>	Thanksgiving Day: a holiday.
<i>Nov. 30, Saturday.</i>	Payment of the second instalment of the tuition fee is required on or before this date.
<i>Dec. 14, Saturday.</i>	Last day for receiving theses for February degrees.

RECESS FROM DEC. 23, 1929 TO JAN. 2, 1930, INCLUSIVE

1930

<i>Jan. 30, Thursday.</i>	Payment of the third instalment of the tuition fee is required on or before this date.
<i>Feb. 3, Monday.</i>	SECOND HALF-YEAR BEGINS.
<i>Feb. 22, Saturday.</i>	Washington's Birthday: a holiday.

RECESS FROM APRIL 6 TO APRIL 12, INCLUSIVE

<i>April 15, Tuesday.</i>	Last day for receiving theses for June degrees.
<i>April 19, Saturday.</i>	Patriots' Day: a holiday.
<i>April 30, Wednesday.</i>	Payment of the fourth instalment of the tuition fee is required on or before this date.
<i>May 30, Friday.</i>	Memorial Day: a holiday.
<i>June 19, Thursday.</i>	COMMENCEMENT.

SUMMER VACATION, FROM COMMENCEMENT TO SEPTEMBER 21, INCLUSIVE

In order to insure equal periods of time for the various courses, the following division of the academic year has been arbitrarily made:

<i>Mon. Sept. 23-Sat. Oct. 19</i>	OCTOBER
<i>Mon. Oct. 21-Sat. Nov. 16</i>	NOVEMBER
<i>Mon. Nov. 18-Sat. Dec. 21</i>	DECEMBER ¹
<i>Fri. Jan. 3-Sat. Feb. 1</i>	JANUARY
<i>Mon. Feb. 3-Sat. Mar. 1</i>	FEBRUARY
<i>Mon. Mar. 3-Sat. Mar. 29</i>	MARCH
<i>Mon. Mar. 31-Sat. May 3</i>	APRIL ²
<i>Mon. May 5-Sat. May 31</i>	MAY

¹ Christmas vacation from Dec. 23, 1929, to Jan. 2, 1930, inclusive.

² Spring recess from April 6 to April 12, 1930, inclusive.

THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE

This Board is commonly known as the CORPORATION.

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17 Quincy St., Cambridge

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122 Commonwealth Ave., Boston

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DEPUTY TREASURER

GORHAM BROOKS, A.B. 50 State St., Boston

SECRETARY TO THE CORPORATION

FRANCIS WELLES HUNNEWELL, A.B., LL.B.
5 University Hall, Cambridge

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1930 *

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FREDERICK PICKERING CABOT, A.M., LL.B. 53 State St., Boston

1931

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BARRETT WENDELL, JR., A.B. 209 South La Salle St., Chicago, Ill.

1932

LE BARON RUSSELL BRIGGS, A.M., LL.D., LL.T.D. 6 Ash St., Cambridge
FRANKLIN SWIFT BILLINGS, A.B., LL.D. Woodstock, Vt.
PHILIP STOCKTON, A.B. 17 Court St., Boston
DWIGHT FILLEY DAVIS, A.B., LL.B., LL.D. Manila, P. I.
THOMAS JEFFERSON COOLIDGE, A.B. 17 Court St., Boston

* The term expires, in each case, on Commencement Day of the year indicated.

1933

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16 Westmoreland Place, St. Louis, Mo.
- ELLIOTT CARR CUTLER, A.B., M.D.
Lakeside Hospital, Cleveland, Ohio

1934

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- LEVERETT SALTONSTALL, A.B., LL.B.
608 Shawmut Bank Building, Boston

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909 Atlantic National Bank Building, 100 Milk St., Boston

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George Higginson Professor of Physiology.
- ERNEST E. TYZZER, A.M., M.D. 175 Water St., Wakefield
George Fabyan Professor of Comparative Pathology.
- C. MACFIE CAMPBELL, M.A., B.Sc., M.D. 58 Lake View Ave., Cambridge
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- LAWRENCE J. HENDERSON, A.B., M.D. 4 Willard St., Cambridge
Professor of Biological Chemistry.
- EDWIN B. WILSON, Ph.D. 42 Brington R'd, Brookline
Professor of Vital Statistics.
- HANS ZINSSER, A.M., M.D. 52 Chestnut St., Boston
Professor of Bacteriology and Immunology.
- MARSHAL FABYAN, A.B., M.D. 379 Commonwealth Ave., Boston
Assistant Professor of Comparative Pathology.
- BENJAMIN WHITE, Ph.D. 3 Revere St., Jamaica Plain
*Assistant Professor of Bacteriology and of Preventive Medicine, and
Director of the Division of Biologic Laboratories, Department of
Public Health of Massachusetts.*
- WILLIAM L. MOSS, S.B., M.D. 72 Robinwood Ave., Jamaica Plain
Assistant Professor of Bacteriology and Immunology.
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Assistant Professor of Tropical Medicine.
- ANDREW WATSON SELLARDS, A.M., M.D. 55 Van Dyke St., Boston
Assistant Professor of Tropical Medicine.

† Arranged, with the exception of the President, Dean, and Assistant Dean on the basis of collegiate seniority.

- RICHARD M. SMITH, A.B., M.D. 120 Marlborough St., Boston
Assistant Professor of Child Hygiene.
- WILSON G. SMILLIE, A.B., M.D., Dr.P.H. 55 Van Dyke St., Boston
Professor of Public Health Administration.
- MELVILLE C. WHIPPLE, 79 Larchwood Drive, Cambridge
Assistant Professor of Sanitary Chemistry.
- W. LLOYD AYCOCK, M.D. Brush Hill R'd, Hyde Park
Assistant Professor of Preventive Medicine and Hygiene.
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Silas Arnold Houghton Associate Professor of Bacteriology.
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Assistant Professor of Entomology
- LLOYD D. FELTON, A.B., M.D., D.Sc. 7 Trowbridge Place, Cambridge
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Assistant Professor of Physiology.
- DAVID BRUCE DILL, Ph.D. 6 Oakland Ave., Arlington Heights
Assistant Professor of Biological Chemistry.
- HAROLD C. STUART, Litt.B., M.D. 116 Warren St., Brookline
Assistant Professor of Child Hygiene.
- PHILIP DRINKER, S.B., Ch.E. 55 Van Dyke St., Boston
Assistant Professor of Ventilation and Illumination.
- CONSTANTIN P. YAGLOU, A.B., M.E., M.M.E. 55 Van Dyke St., Boston
Instructor in Ventilation and Illumination.
- GORDON M. FAIR, S.B. 10 Chauncy St., Cambridge
Associate Professor of Sanitary Engineering.
- MARSHALL HERTIG, Ph.D. 55 Van Dyke St., Boston
Assistant Professor of Entomology.
- LEMUEL R. CLEVELAND, S.B., D.Sc. 207 Audubon R'd, Boston
Assistant Professor of Protozoölogy.
- DONALD L. AUGUSTINE, S.B., ScD. 138 Mason Terr., Brookline
Assistant Professor of Helminthology.
- CARL R. DOERING, A.B., M.D., D.Sc. 68 Grozier R'd, Cambridge
Assistant Professor of Vital Statistics.

OTHER INSTRUCTORS AND ASSISTANTS

- CHARLES V. CHAPIN, A.B., M.D., Sc.D. 84 Keene St., Providence, R.I.
Lecturer on Public Health Administration.
- WILLIAM E. DEEKS, M.D., A.M. 16 East 8th St., New York, N.Y.
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- JOSEPH W. SCHERESCHESKY, A.B., M.D. 87 School St., Belmont
Associate in Preventive Medicine and Hygiene.

- JOSEPH B. HOWLAND, M.D. Peter Bent Brigham Hospital, Boston
Lecturer on Hospital Administration.
- FRANK E. SCHUBMEHL, M.D. 109 Broad St., Lynn
Assistant in Industrial Medicine.
- M. LUISE DIEZ, M.D. 37 River St., Boston
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Instructor in the Practice of Industrial Medicine.
- ALEXANDER HAMILTON RICE, M.D., A.M. 901 Fifth Ave., New York, N.Y.
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- WILLIAM A. HINTON, S.B., M.D. Dedham St., Canton
Instructor in Bacteriology and Preventive Medicine, and Assistant Director of the Wassermann Laboratory.
- FLORENCE L. MCKAY, A.B., M.D. 1 Waterhouse St., Cambridge
Instructor in Child Hygiene.
- HAROLD W. STEVENS, A.B., M.D. 73 Elm R'd, Newtonville
Assistant in Industrial Medicine.
- ROBERT S. QUINBY, M.D. 361 School St., Watertown
Instructor in the Practice of Industrial Medicine.
- ALBERT A. HORNOR, A.B., M.D. 222 Rawson R'd, Brookline
Assistant in Tropical Medicine.
- ROBERT M. THOMSON, 40 Concord Ave., Milton
Assistant in Ventilation and Illumination.
- FRANCIS B. GRINNELL, A.B., M.D. Charles River, Mass.
Associate in Bacteriology and Immunology.
- LOUIS A. SHAW, A.B. 301 Berkeley St., Boston
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- CARLTON ERNEST BROWN, Ch.E., M.S. 55 Van Dyke St., Boston
Research Fellow in Ventilation and Illumination.
- EDWARD P. HUTCHINSON, A.B. 55 Van Dyke St., Boston
Assistant in Vital Statistics.

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Office, 5 University Hall, Cambridge.

Dean: DAVID L. EDSALL, A.B., M.D., S.D.
Office, School of Public Health, 55 Van Dyke St., Boston.

Assistant Dean: CECIL K. DRINKER, S.B., M.D.
Office, School of Public Health, 55 Van Dyke Street, Boston.

Secretary: MARIAN DALE.
Office, School of Public Health, 55 Van Dyke Street, Boston.

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EDWIN B. WILSON, A.B., Ph.D., *Professor of Vital Statistics*.

HANS ZINSSER, A.M., M.D., *Professor of Bacteriology*.

CECIL K. DRINKER, S.B., M.D., *Professor of Physiology*.

WILSON G. SMILLIE, A.B., M.D., *Professor of Public Health Administration*.

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Higher Degrees: ERNEST E. TYZZER, *Chairman*, HANS ZINSSER, EDWIN B. WILSON, WILSON G. SMILLIE, CECIL DRINKER (*ex officio*).

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THE HARVARD SCHOOL OF PUBLIC HEALTH

HISTORICAL STATEMENT

THE HARVARD SCHOOL OF PUBLIC HEALTH first gave instruction to students in the academic year 1922-23. For many years activity in public health had been rapidly increasing in Harvard University. The influence of the University upon public health, through the pioneering and long-continued efforts of Dr. Henry P. Walcott, senior member of the Harvard Corporation, was important and far-reaching. Courses in the various departments had been gradually developed to meet the need for men trained to conserve public health. The field of public health is so broad that it is not strange that this School did not find its origin in any one department. The records show certain important steps in what has been essentially a gradual development. In 1909 a department of Preventive Medicine and Hygiene was established in the Medical School. The degree of Doctor of Public Health was first conferred in 1911. In this same year a department of Sanitary Engineering was inaugurated in the Engineering School. In 1913 a department of Tropical Medicine was formed. In 1918 a Division of Industrial Hygiene with clinical and laboratory facilities was organized in the Harvard Medical School.

Besides these activities which were directly concerned with the training of men for public health work, research was being carried on in the regular departments of the Harvard Medical School in Bacteriology, Pathology, Parasitology, Physiology, Bio-Chemistry, and others, which had perhaps a less direct but very real bearing on the development of the science of public health. On analysis it appeared that there were many activities under the various faculties of Harvard University, besides those of Medicine and Engineering, that had some bearing on public health. Under the Faculty of Arts and Sciences there were many courses, such as those in Physics, Chemistry, Zoölogy, Social Ethics, etc., which formed in certain cases important parts of the training of individuals for work in public health. In addition, there had been established in 1914, under the Faculty of Arts and Sciences, a department of Hygiene, which undertook the supervision of the health of the students in its broadest aspect. This department had collected much data of considerable value in public health.

In 1913 the "Harvard-Technology" School of Public Health was organized. It was under the joint management of Harvard University, and the Massachusetts Institute of Technology. This pioneer School continued to operate until the fall of 1922, when it was superseded by the new Harvard School of Public Health. However, the Massachusetts Institute of Technology continues to coöperate with the Harvard School of Public Health and also offers courses in public health through its department of Biology and Public Health, leading to the several degrees: bachelor, master, and doctor of science, doctor of philosophy, and to the certificate of public health.

As a result of these activities, the University found itself in possession of a substantial nucleus upon which to erect a new School of Public Health of larger scope, and in 1921 received from the Rockefeller Foundation a generous endowment for this purpose, known as the Henry P. Walcott Fund of Harvard University. This gift made it possible: first, to correlate and to enlarge the various departments already existing, such as Preventive Medicine and Hygiene, Bacteriology, Sanitary Engineering, Tropical Medicine, Parasitology, and Industrial Hygiene; second, to create a department of Vital Statistics and to develop new special fields of instruction, such as Public Health Administration, Child Hygiene, Mental Hygiene, Communicable Diseases, and Ventilation and Illumination; and lastly, to purchase a building standing on land adjacent to that occupied by the Medical School in which to house the administration and the various groups concerned with the work of public health.

GENERAL STATEMENT

PURPOSE

It is the object of the School of Public Health to provide the scientific groundwork of expert knowledge which underlies efficient health administration together with some personal acquaintance with modern public health practice of the best types and thus to prepare students for careers in public health. The School of Public Health offers courses and opportunities to fit students for administrative, teaching, field, or laboratory positions. To this end, lectures, laboratory work, hospital exercises, field surveys, and other forms of instruction are offered by members of the Faculty and by special instructors actively engaged in public health work. Coöperation is also maintained with federal, state, and local health departments, and with hospitals and other agencies. Opportunity is given to those who desire to contribute to knowledge through laboratory research or field investigation.

FACILITIES

Boston affords unusually good opportunities to study the operation and administration of state and municipal departments of health. Immediately adjacent to the School of Public Health is the Medical School of Harvard University with its well-equipped laboratories and other facilities. In connection with the Port of Boston, the Federal Government maintains maritime quarantine, immigration, medical and other health services. Abundant material for study of problems of mental hygiene may be found at the Psychopathic Hospital and at the Massachusetts School for Feeble-Minded at Waverley. In Boston are found the health problems of a metropolitan center, and within easy reach, those of large and small towns, as well as of country districts. Boston is an industrial center and its varied industries afford excellent opportunities for the study of industrial hygiene in all its phases. All the usual philanthropic health activities, such as baby hygiene stations, the Red Cross, anti-tuberculosis organizations, district and public health nursing services, and many other similar agencies are active in and around Boston. In certain cases, where students desire special field or laboratory work not offered in the regular courses, the School of Public Health can secure opportunities with the above health agencies and the various City, State, and private laboratories.

PROGRAMS OF STUDY

Public Health Education is founded upon a broad knowledge of three fields, Public Health Administration including Epidemiology, Vital Statistics, and Sanitary Engineering. All other subjects constitute specialties.

Students entering the school are divisible into two classes: (1) those coming for some highly specialized type of training and unconcerned with the matter of the certificate or a degree; and (2) those who wish to obtain a certificate or a degree. On presentation of satisfactory evidence of suitable preliminary training the first group will find ample opportunity for work on their particular projects. In dealing with the second group it is the aim of the school to permit as great freedom in individual selection of programs as is consistent with a proper foundation in the three fundamental fields of public health.

Students wishing to become candidates for either the Master or Doctor of Public Health degrees may consider the courses Public Health Administration A, Epidemiology A, Vital Statistics A and Sanitary Engineering A, as representing the minimum requirements in these subjects. Candidates for the two degrees mentioned are in no sense re-

quired to take these courses, but in the final oral examination for the Master's degree and in the preliminary examination for the Doctor's degree, students will be examined upon these three fundamental subjects and upon such further subjects as may have been contained in their approved programs of study.

Sample programs of study meeting the requirements for the Master's degree and for candidacy for the Doctorate in Public Health are as follows:

1.* Chief interest — Control of Communicable Diseases.

- Courses: 1. Public Health Administration and Epidemiology A.
 2. Vital Statistics A.
 3. Sanitary Engineering A.
 4. Bacteriology.
 a. Bacteriology A.
 b. Biologic Products A.
 c. Bacteriology 3.
 d. Bacteriology 8.
 e. Bacteriology 6.
 5. Medical Zoölogy and Tropical Medicine A.
 6. Child Hygiene A.

2. Chief interest — Industrial Hygiene.

- Courses: 1. Public Health Administration and Epidemiology A.
 2. Vital Statistics A.
 3. Sanitary Engineering A.
 4. Physiology A.
 a. Nutrition A.
 b. Hygiene of Ventilation and Illumination A.
 5. Industrial Medicine A.
 6. Industrial Toxicology A.

3. Chief interest — Medical Zoölogy and Tropical Medicine.

- Courses: 1. Public Health Administration and Epidemiology A.
 2. Vital Statistics A.
 3. Sanitary Engineering A.
 4. Medical Zoölogy and Tropical Medicine A.
 5. Bacteriology A.
 6. Biologic Products A.

* Candidates for the Doctor's degree deficient in Bacteriology must take Bacteriology A and may then take the course in Medical Zoölogy and Tropical Medicine A in the first semester of their second year or the order of taking these two courses may be reversed provided both are taken. Candidates for the Master's degree deficient in Bacteriology are advised to take Bacteriology A and Parasitology A.

4. Chief interest — Community Hygiene.

- Courses: 1. Public Health Administration and Epidemiology A.
 2. Vital Statistics A.
 3. Sanitary Engineering A.
 4. Mental Hygiene A.
 5. Child Hygiene A.

Students deciding upon programs of study should realize that these divisions are merely convenient methods of concentrating their studies and in no sense indicate a rule of procedure in the School. In some instances election of courses without regard to the three fundamental subjects in public health and without regard to the divisions indicated above will be desirable. In such cases the final examination will cover the subjects elected.

OPPORTUNITIES FOR PART-TIME WORK

Students unable to spend a full academic year at the School may come for one or more months and secure courses in some special field, such as Child Hygiene, Mental Hygiene, Physiology, Hygiene of Ventilation and Illumination, Industrial Medicine, Vital Statistics, Sanitary Engineering, Nutrition, Industrial Toxicology, Applied Immunology and Bacteriology, and Biologic Products. A glance at the tabular view (page 52) will give an idea of the possibilities of this plan for certain courses. Students are thus able not only to take the intensive courses formally offered during the period that they are at the School, but to fit into their programs other training in special fields by individual arrangements with local laboratories, health agencies, and hospitals.

To full-time students in the School of Public Health all the facilities of the University are available and before deciding on their programs they should consult pp. 47-48 for opportunities that may be especially suited to their particular needs.

ADMISSION REQUIREMENTS

Candidates for the degrees must satisfy the Administrative Board of their academic fitness by a medical degree, or its equivalent, from an approved medical school. Candidates for the Certificate must present evidence of adequate training in English and other modern languages, physics, inorganic, organic and biochemistry, biology, anatomy, histology, physiology, pathology, and bacteriology. The latter represents the minimum requirements for entrance to the Harvard Medical School, plus certain of the fundamental medical sciences of the first two years of the Medical School. The mere completion of courses is not ordinarily

satisfactory evidence of the fitness of a prospective student. The Administrative Board may require further evidence of present ability to utilize the training received, and ability to profit by the courses administered by the School.

The medical degree or its equivalent is a prerequisite for the degree of Doctor of Public Health, and Master of Public Health, but not for the Doctor of Philosophy in Hygiene.

Those who do not meet the academic requirements for admission as candidates for degrees may be admitted as students to certain courses and programs of study at the discretion of the Administrative Board.

Opportunities are offered to research students who may desire to investigate special health problems or to make surveys without reference to a degree.

Admission of Women: Women whose previous training and experience are satisfactory may register in this School as special students. As in the past, women may also register for the degree of Doctor of Philosophy in Hygiene through Radcliffe College, taking their work in this School. The University does not confer the degrees of Doctor of Public Health, or Master of Public Health, on women; but they may receive the Certificate of Public Health.

A certificate of successful vaccination is required of all new students registering in any department of the University.

All inquiries and communications should be addressed to the Secretary of the Harvard School of Public Health, 55 Van Dyke Street, Boston, Mass., who will forward upon request catalogues, admission blanks, fellowship applications, and any other information desired.

CERTIFICATE IN PUBLIC HEALTH

Prerequisites: The student must give evidence of having had satisfactory training in modern languages, inorganic, organic and biochemistry, biology, physiology, anatomy, histology, pathology, and bacteriology. As a rule these requirements will be met by students possessing a bachelor's degree plus the first two years in an approved medical school.

The Certificate in Public Health will be granted on satisfactory completion of individual courses in an approved program followed during one academic year in the School of Public Health, and does not require the final general examination essential for the degree of Master of Public Health.

DEGREES

Master of Public Health

Students entering for this degree must present satisfactory evidence of having received the M.D. degree, or its equivalent, from an approved medical school.

Candidacy for the degree of Master of Public Health: Before admission to candidacy for the degree of Master of Public Health, the student will be required to present a program of advanced study covering one year's work, which must be approved by the Committee on Higher Degrees.

Final Examination: The conditions governing this examination have been indicated in the section on programs for study. No student whose course record is unsatisfactory will be admitted to this examination without special permission from the Administrative Board.

Residence: For the degree of Master of Public Health, one academic year must be spent in residence at this University.

Doctor of Public Health

Students contemplating entrance for this degree must present satisfactory evidence of having received the M.D. degree, or its equivalent, from an approved medical school.

Candidacy for the degree of Doctor of Public Health: To establish candidacy the student is required to pass an oral examination of the same type as that required to obtain the degree of Master of Public Health. This examination may be taken without reference to the length of residence as a student. It is intended to provide the assurance that all men receiving the doctorate in Public Health are grounded in the three fundamental subjects and in the field most closely allied to their special interests. If the chief interest of the student is in the control of Communicable Diseases, or in Medical Zoölogy and Tropical Medicine, he must take or have had the equivalent of the courses grouped under Bacteriology and Medical Zoölogy and Tropical Medicine A. Programs of study or statements of the qualifications of the student for examination must be presented to the Committee on Higher Degrees when the student enters the school.

Thesis: For the doctorate in Public Health the student must present a program of independent investigation to the Chairman of the Committee on Higher Degrees. The result of this investigation will form the basis of the thesis which must be presented as one of the final requirements for graduation. *Two copies* of the thesis must be received by the Chairman of the Committee on or before the fifteenth day of December

for degrees conferred in February, and on or before the fifteenth day of April for degrees conferred in June. Each copy must be accompanied by a summary not exceeding 1200 words in length which shall indicate clearly its purposes, methods and results.

Final Examination: On approval of the thesis the student will be required to expound and defend the subject matter of the thesis to the Faculty of the School of Public Health.

Residence: For the degree of Doctor of Public Health, at least one academic year must be spent in residence at this University.

Doctor of Philosophy (in Hygiene)

The degree of Doctor of Philosophy is granted by the University to men, or through Radcliffe College to women, on recommendation of the Division of Medical Sciences of the Faculty of Arts and Sciences in the following special fields:

- Anatomy, including comparative anatomy.
- Embryology, including microscopic anatomy.
- Physiology or comparative physiology.
- Biological chemistry.
- Pathology or comparative pathology.
- Bacteriology.
- Pharmacology.
- Hygiene.

Properly qualified students in public health have the opportunity to obtain the Doctorate in Philosophy in the field most closely allied to their special interests. This degree is administered by the Faculty of Arts and Sciences of Harvard University, or by Radcliffe College, in accordance with their regulations. Candidates for the degree of Doctor of Philosophy must fulfill certain preliminary requirements, must devote to approved advance studies not less than two years — at least one of which must be spent in residence at this University — and must pass general examinations and present an account of original work in an accepted thesis, before being granted the degree.

Doctor of Medical Sciences

The degree of Doctor of Medical Sciences is administered by the Faculty of Medicine in accordance with their regulations. Further information concerning this degree may be had upon application.

The degrees of Doctor of Philosophy and Doctor of Medical Sciences are designed for those who wish to become productive scholars.

FEES AND EXPENSES

The fees are: For instruction (including laboratory charges except breakage, damage, and loss of apparatus), \$300 for each year. The tuition will be charged on term bills issued and payable as follows: one-fourth on the term bill issued and payable September 23d, 1929, one-fourth on the term bill issued November 12th and payable November 30th, one-fourth on the term bill issued January 13th, 1930, and payable January 30th, and one-fourth on the term bill issued April 12th and payable April 30th. Students desiring to take single courses may do so at the rate of \$50 for one full course, payable in advance.

Bills for miscellaneous charges will be rendered at the time the indebtedness is incurred.

All indebtedness to the University must be paid by all candidates for degrees at least one day before Commencement.

Students who are candidates for degrees in the middle of the academic year must pay all dues to the University at least one day before the day upon which the degrees are to be voted.

A student who leaves during the year is charged to the end of the tuition period in which he leaves, provided before that time he gives the Dean notice in writing of his withdrawal; otherwise he is charged to the end of the academic year or to the end of the tuition period in which such notice is given.

When a student's connection with the University is severed, all charges against him must be paid at once.

Any student whose indebtedness to the University remains unpaid on the date fixed for payment is deprived of the privileges of the University until he is reinstated. Reinstatement is obtained only by consent of the Dean of the Department in which the student is enrolled, after payment of all indebtedness and a reinstatement fee of \$10.

A student may rent a microscope from the School upon application to the Administration Office, but the School offers no guarantee that it will keep on hand a sufficient number of such instruments to furnish one for each student.

STILLMAN INFIRMARY FEE

Not later than October 1 in each academic year, any student may pay to the Bursar the sum of \$10 for the maintenance of the Stillman Infirmary; and, on the order of a physician, every student who has taken advantage of this opportunity will be given, in case of sickness, in return for the fee, a bed in a ward, board, and ordinary nursing for a period not exceeding two weeks in any one academic year.

The School of Public Health provides a physician, Dr. Reginald Fitz, who will give physical examination or medical treatment to students without charge, during his office hours, or at other times by appointment.

BOND REQUIRED OF STUDENTS

Every student is required to file with the Bursar on his entrance to the School a bond of \$200 executed by two sufficient bondsmen, one of whom must be a citizen of the United States or by a surety company duly qualified to do business in Massachusetts, or he may deposit with the Bursar two hundred dollars in United States bonds, or fifty dollars as security and pay in advance all sums for which he becomes liable to the University. Money deposited as security is returnable, without interest and at the request of the depositor, after the issue of the fifth term-bill, one week before Commencement. Every student who boards at the Dining Hall must file a bond for \$500. Every student who occupies a room in the Medical School dormitory must file a bond for \$500, or must pay in advance the full year's rent of his room. No officer or student of the University is accepted as a bondsman. Blank forms of bonds may be obtained at the Dean's Office or from the Bursar. *Students will be held responsible for the payment of fees until they have notified the Dean, in writing, of their intentions to withdraw from the School.*

FELLOWSHIPS

The School offers a limited number of fellowships of \$1200 each. These fellowships are open to students of high scholarship and exceptional ability. Applicants whose experience and training have fitted them to pursue an original piece of research work along lines of Public Health will be given preference. No fellowship will be granted to a student spending less than one academic year at the School.

Applications for fellowships should be filed with the Secretary of the School of Public Health.

LOCATION AND BUILDINGS

The School of Public Health is located at 55 Van Dyke Street. The building, formerly occupied by the Infants' Hospital, is large and adequate to meet the needs of the growing School of Public Health. It stands on land adjacent to that occupied by the Medical School and in close proximity to the Peter Bent Brigham Hospital, the Children's Hospital, the Collis P. Huntington Hospital, and the Lying-In Hos-

pital. The Antitoxin and Vaccine Laboratory of the Massachusetts Department of Public Health is within a comparatively short distance of the School. The Boston Psychopathic Hospital is also within a few blocks. The students of the School of Public Health have the privilege of the full use of the Harvard Medical School buildings.

LIBRARIES

The Library of the School of Public Health is combined with the central library of the Harvard Medical School. It is housed in the Administration Building of the Harvard Medical School adjacent to the School of Public Health, and is open from 9 A.M. until 10 P.M. on week days, and from 9 A.M. until 1 P.M. on Saturdays. There are at present 48,484 volumes and 112,182 pamphlets in this library, and 453 current periodicals are kept on file.

Students also have the privilege of the use of the College Library in Cambridge, and of the various departmental libraries belonging to the University, in all of which there are 2,622,400 volumes and pamphlets.

Besides the University libraries, students in this School may use the Boston Public Library on Copley Square, and the Boston Medical Library at No. 8 the Fenway, which contains 145,988 volumes and 96,623 pamphlets, and 742 current periodicals. This very valuable library is open to those who desire to consult medical literature on week days from 9.30 A.M. until 10 P.M., and in July, August and September from 9.30 A.M. until 5 P.M.

HARVARD INFANTILE PARALYSIS COMMISSION

ROGER PIERCE, *Chairman*, RICHARD C. CURTIS, *Treasurer*, W. LLOYD AYCOCK, M.D., GEORGE H. BIGELOW, M.D., HERMANN F. CLARKE, HOMER GAGE, M.D., ARTHUR T. LEGG, M.D., JAMES J. MINOT, M.D., ROBERT B. OSGOOD, M.D., W. RODMAN PEABODY, REDFIELD PROCTOR, MILTON J. ROSENAU, M.D., RICHARD M. SMITH, M.D., CHARLES H. TAYLOR, HANS ZINSSER, M.D.

A Commission for the study of infantile paralysis was appointed by the Corporation of Harvard University on September 25, 1926.

Since that time the Commission has conducted clinics for the treatment of the paralytic effects of this disease and for early diagnosis and treatment of its acute stage. In this work the Commission coöperates with the Massachusetts State Department of Health and the Vermont Department of Health. In addition it is conducting a comprehensive

study of the cause, mode of spread and prevention of infantile paralysis. This work is carried on at the bedside, in the field and in the laboratory.

The work of the Commission is financed by public subscription. Its research work is also aided by a gift from the International Committee for the Study of Infantile Paralysis and a fund donated to the Vermont Department of Public Health.

ANNOUNCEMENT OF COURSES

BACTERIOLOGY

HANS ZINSSER, A.M., M.D., *Professor of Bacteriology and Immunology.*

BENJAMIN WHITE, Ph.D., *Assistant Professor of Bacteriology and Director of the Division of Biologic Laboratories, Department of Public Health of Massachusetts.*

W. L. MOSS, B.S., M.D., *Assistant Professor of Bacteriology and Immunology.*

HUGH KINGSLEY WARD, M.B., D.P.H., D.A., *Assistant Professor of Bacteriology and Immunology.*

J. HOWARD MUELLER, Ph.D., *Silas Arnold Houghton Associate Professor of Bacteriology and Immunology.*

FRANCIS B. GRINNELL, A.B., M.D., *Associate in Bacteriology and Immunology.*

ROBERT N. NYE, M.D., *Instructor in Bacteriology.*

WILLIAM A. HINTON, S.B., M.D., *Instructor in Bacteriology and Assistant Director of Wassermann Laboratory.*

ELLIOTT S. A. ROBINSON, M.D., Ph.D., *Instructor in Bacteriology and Assistant Director of the Biologic Laboratories, State Department of Public Health.*

FRED W. MORSE, Jr., M.D., *Instructor in Bacteriology.*

KENNETH GOODNER, Ph.D., *Assistant in Bacteriology and Immunology.*

ELIOT F. PORTER, S.B., M.D., *Assistant in Bacteriology and Immunology.*

The Department of Bacteriology and Immunology of the Harvard School of Public Health, in addition to a course in bacteriology adapted to the needs of medical students, offers a course of lectures and demonstrations in immunity and specific therapy. A course is given once a year for a limited number of advanced students, with particular reference to the needs of public health officers. The work is adapted in each case to the needs of the student applying, by special arrangements with the instructing staff.

Opportunity for diagnostic serological work is offered in the Department in connection with the Wassermann Laboratory of the State of Massachusetts, and provision is made for individual work upon problems of serum production, standardization, etc., under Dr. Benjamin White of the Massachusetts Antitoxin and Vaccine Laboratory.

Advanced work, and opportunities for investigation are available, admission to this type of work depending upon the fitness of the applicant.

Bacteriology A

Three afternoons a week (Monday, Wednesday, and Friday) for four months (September 23-January 25), 2-5 P.M.

The regular medical students' course, but which deals with the bacteriology of the pathogenic microorganisms in its specific applications to the diagnosis, investigation and prevention of communicable disease and covers the practical diagnosis methods most frequently employed in the hospital and in the field. Public Health students who are admitted to this course will have somewhat more thorough drilling in these methods than the medical students.

Biologic Products A

Three afternoons a week (Monday, Wednesday, and Friday) for one month (February 3-March 1), 2-5 P.M.

This course, which will be given by Professor White and Dr. Robinson at the State Antitoxin and Vaccine Laboratory, will deal with the methods used in the preparation and testing of serums and vaccines, with a critical discussion of the rationale of the preparation and use of these biologic products.

Bacteriology 3

Two afternoons a week (Tuesday and Thursday) for three months (November 5-January 23), 2-3 P.M.

Immunity. — A course of lectures on the principles and theories of immunity, with practical demonstrations and discussions in which a number of lectures preparatory to the work in the Antitoxin Laboratory will be given by Dr. White and Dr. Robinson.

Bacteriology 8

Two afternoons a week (Tuesday and Thursday) for two months (November 5-December 31), 3-5 P.M.

Serological Exercises. — A short course by Dr. Ward, given in coördination with the immunity lectures, which, without endeavoring to cover the entire field, will give the student an introduction to the technical methods most frequently employed, and so chosen that they will illustrate the most important principles of serological reactions.

Bacteriology 6

Arrangements as to hours will be made to suit the needs of individual students.

Diagnostic Serum Reactions. — A short course given by Dr. Hinton which deals chiefly with the details of methods of serological syphilis diagnosis, but includes other phases of practical diagnostic public health laboratory work and the organization of laboratories for such purposes.

Since the above series of courses constitutes a complete unit of bacteriological public health laboratory work, it is proposed for students who take the entire group of courses to treat them as a single course in regard to examination.

If this curriculum of bacteriological courses is taken on the foundation of a preliminary course in epidemiology, vital statistics and sanitary engineering and is combined with medical zoölogy, this would represent a thorough training in that branch of public health which deals with the communicable diseases.

Research in Bacteriology

Special advanced courses will be offered in Immunology and the Technique of Serum Study, and will be open to a limited number of students.

Opportunity will also be given for properly qualified students to pursue research work along varied lines.

APPLIED IMMUNOLOGY — BIOLOGIC PRODUCTS

BENJAMIN WHITE, Ph.D., *Director of the Division of Biologic Laboratories, Massachusetts Department of Public Health.*

ELLIOTT S. A. ROBINSON, M.D., Ph.D., *Assistant Director of the Division of Biologic Laboratories, Massachusetts Department of Public Health.*

Biologic Products A

Three afternoons a week (Monday, Wednesday, and Friday) for one month (February 3–March 1), 2–5 P.M.

This course, which will be given at the State Antitoxin and Vaccine Laboratory, will deal with the methods used in the preparation and testing of serums and vaccines, with a critical discussion of the rationale of the preparation and use of these biologic products.

In addition to the courses given jointly by the Massachusetts Antitoxin and Vaccine Laboratory and the Department of Bacteriology

(for details see Bacteriology), opportunities will be afforded to properly qualified students who desire special instruction in the production of biologic products to study and participate in the preparation and testing of serums and vaccines.

Facilities are also offered to candidates for the higher degrees to carry on original work in immunology.

COMPARATIVE PATHOLOGY

ERNEST E. TYZZER, A.M., M.D., *Professor of Comparative Pathology.*

MARSHAL FABYAN, A.B., M.D., *Assistant Professor of Comparative Pathology.*

MARSHAL HERTIG, Ph.D., *Assistant Professor of Entomology.*

DONALD L. AUGUSTINE, S.B., Sc.D., *Assistant Professor of Helminthology.*

HANS THEILER, M.R.V.S., *Assistant in Comparative Pathology.*

Parasitology A

Three afternoons a week (Monday, Wednesday, and Friday) for one month (February), 2-5, P.M.

This is the regular Medical School course and is open to students in the School of Public Health.

Medical Zoölogy and Tropical Medicine A

Instruction in this course will be furnished by the combined staffs of the Department of Comparative Pathology and Tropical Medicine. Clinical, epidemiological, and pathological aspects of the subjects under consideration will be presented at appropriate times in connection with the laboratory studies.

The course is divided into four sections of one month each as follows:

1—Protozoölogy

Three afternoons a week (Monday, Wednesday, and Friday) for one month (September 23–October 19), 2-5 P.M.

Following a brief preliminary survey of the field of Medical Zoölogy, such Protozoa as are considered of medical importance will be taken up with special reference to their identification and life cycles. Together with the theoretical knowledge of the subject acquired through reading or from lectures, the student will be expected to learn certain useful methods for obtaining and preparing material for study and also to become proficient in the identification of the more important para-

sitic protozoa. Material from human cases, cultures and experimentally infected animals will be utilized for the study of these microorganisms. Seminars will be held at which the student will review certain important contributions to the subject.

2—Helminthology

Three afternoons a week (Monday, Wednesday, and Friday) for one month (October 21–November 16), 2–5 P.M.

During this period the course is designed to give the student a general knowledge of the biology of the helminths, and to acquaint him with those species parasitic in man and the diseases caused by them. Emphasis will be placed upon the symptomatology, methods of diagnosis and treatment; and the life cycles in relation to the transmission, prophylaxis and control of these parasites. Conferences will be held at which reports are to be given by members of the class on original observations and current literature pertaining to the subject.

3—Medical Entomology

Three afternoons a week (Monday, Wednesday, and Friday), for one month (November 18–December 21), 2–5 P.M.

This course presupposes an elementary knowledge of insects. It will include a survey of the more important arthropods concerned in the health of man, both in temperate and tropical regions. Emphasis is placed upon those arthropods which act as disease transmitters, with a study of life histories, habits, and methods of control. Opportunities are offered for becoming acquainted with methods of collecting, identifying, dissecting and preparing material, and the rearing of insects in experimental studies. A study will be made of the various ways in which these organisms are active either as parasites, as carriers of diseases, or as the cause of local injuries or physiological disturbances. Laboratory work will provide practical training in identification, dissection, methods of studying life histories and habits, and experimental transmission of diseases. Stress will be laid upon furnishing the student with the most useful monographs and reference books. Students may go on further to become acquainted with the extensive special literature so as to be able to carry on independent research work in tropical and foreign countries.

4—Infectious Diseases

Three afternoons a week (Monday, Wednesday, and Friday), for one month (January 3–February 1), 2–5 P.M.

The course during this month consists of lectures, laboratory work, and clinical instruction.

The most important infectious and other preventable diseases of tropical and foreign countries will be dealt with from the following points of view:

1. The etiology, principles, and modern methods of diagnosis.
2. The methods of transmission and mode of spread.
3. The hygienic problems involved in their control and prevention.
4. The administrative and practical measures to be employed in the control of these diseases under endemic and epidemic conditions.
5. The value of a knowledge of the methods of diagnosis, methods of transmission, prevention, and treatment of the tropical diseases of men and animals in connection with the study, prevention, and treatment of the human infectious diseases in general.

PREVENTIVE MEDICINE AND EPIDEMIOLOGY

MILTON J. ROSENAU, M.D., A.M., *Charles Wilder Professor of Preventive Medicine and Hygiene.*

LLOYD D. FELTON, A.B., M.D., D.Sc., *Assistant Professor of Preventive Medicine and Hygiene.*

BENJAMIN WHITE, Ph.D., *Assistant Professor of Preventive Medicine and Hygiene, and Director of the Antitoxin and Vaccine Laboratory, State Department of Public Health.*

W. LLOYD AYCOCK, M.D., *Assistant Professor of Preventive Medicine and Hygiene.*

JOSEPH W. SCHERESCHEWSKY, A.B., M.D., *Associate in Preventive Medicine and Hygiene.*

ELLIOTT S. A. ROBINSON, M.D., Ph.D., *Instructor in Preventive Medicine and Hygiene, and Assistant Director of the Antitoxin and Vaccine Laboratory, State Department of Public Health.*

HOWARD B. ANDERVONT, B.S., Sc.D., *Instructor in Epidemiology.*

SYDNEY D. KRAMER, M.A., M.D., *Instructor in Preventive Medicine and Hygiene.*

Epidemiology A

One hour (11.30-12.30) three mornings a week (Monday, Tuesday, and Wednesday), for four months (September 23-February 1).

Field work — All day Thursday, for four months (September 26-January 30).

The course consists of lectures, demonstrations, and practical field work. The lectures are designed to give the principles, historic development, and methods of epidemiology with their application to public

health administration of the communicable diseases. A number of well-studied epidemics are described and discussed with special reference to their origin, mode of spread and control. The course also includes a consideration of the following subjects: the epidemiology of air-borne, water-borne, milk-borne, and insect-borne infections; the epidemiology of selected representative diseases; disinfection and disinfectants; seasonal prevalence and periodicity; geographic distribution; the laws of epidemics. Each student is required to study and report briefly upon an epidemic. Each student is also required to make a special study of some topic in epidemiology, which is made the subject of a report and discussion at one of the conferences. The field work is done in coöperation with the Department of Public Health Administration and the Massachusetts State Department of Public Health. Each student is assigned to a member of the Department who acts as a tutor, supervises his reading, guides his field work and surveys and helps generally with his problems. The system permits the development of individual interests. Students taking the course are also invited to attend a Journal Club which meets regularly during the academic season.

Epidemiology B

Advanced work. By arrangement with Professor Rosenau.

This consists in special investigations of a particular disease or problem from both the field and the laboratory standpoints.

Research in Preventive Medicine and Epidemiology

During the past year research has been carried on in the following subjects: Epidemiology of pneumonia; the virulence of the pneumococcus; isolation of the protective antibody from antipneumococcus serum; soluble specific precipitating substances for antipneumococcus sera; studies on filterable viruses; the epidemiology of poliomyelitis; and the epidemiology of cancer. Properly qualified students desiring to do advanced work will be welcomed into any of the lines of research which have been reviewed.

COMMUNICABLE DISEASES

During the year 1929-1930, owing to the reorganization of the Communicable Disease facilities at the disposal of the School of Public Health, this subject will be covered by a series of special lectures arranged by the Department of Child Hygiene.

TROPICAL MEDICINE

RICHARD P. STRONG, Ph.B., M.D., S.D., *Professor of Tropical Medicine.*

ANDREW WATSON SELLARDS, A.M., M.D., *Assistant Professor of Tropical Medicine.*

GEORGE C. SHATTUCK, M.D., A.M., *Assistant Professor of Tropical Medicine.*

JOSEPH BEQUAERT, Ph.D., *Assistant Professor of Entomology.*

LEMUEL R. CLEVELAND, B.S., D.Sc., *Assistant Professor of Protozoölogy.*

MAX THEILER, M.R.C.S., L.R.C.P., D.T.M. and H., *Instructor in Tropical Medicine.*

JACK H. SANDGROUND, S.D., *Instructor in Tropical Helminthology.*

ALEXANDER HAMILTON RICE, M.D., A.M., *Lecturer on Diseases of South America.*

ALBERT A. HORNOR, A.B., M.D., *Assistant in Tropical Medicine.*

CLARK HEATH, A.B., M.D., *Assistant in Tropical Medicine.*

WILLIAM E. DEEKS, M.D., A.M., *Lecturer on Tropical Medicine.*

CARLOS CHAGAS, A.M., *Lecturer on Tropical Medicine.*

AFRANIO DO AMARAL, B.Sc., B.Litt., M.D., Dr. P.H., *Lecturer on Ophiology.*

CLAY G. HUFF, Sc.D., *Research Fellow in Tropical Medicine.*

Medical Zoölogy and Tropical Medicine A

Three afternoons a week (Monday, Wednesday, and Friday), for four months (September 23–February 1), 2–5 P.M.

Instruction in this course will be furnished by the combined staffs of the Departments of Comparative Pathology and Tropical Medicine. For details see page 28.

Advanced Work in Tropical and Exotic Diseases

For students entering the School with the intention of specializing in public health in tropical countries, a series of courses lasting eight months is provided. The program followed must include advanced courses in exotic and tropical diseases in:

1. Practical bacteriology and pathology.
2. Practical protozoölogy and helminthology.
3. Practical entomology.
4. Epidemiology (including field work).
5. Clinical, at infectious diseases hospital.

The courses in bacteriology, protozoölogy, helminthology, and entomology are fundamental in connection with the prevention and control of tropical or exotic diseases. Courses relating to tropical climatology, botany, venomous animals and the biological effects of sunlight in tropical countries will also be of advantage and of particular interest to the health officer who desires a more cosmopolitan experience, and are provided for those students desiring them. The need for thoroughly trained men in the field of exotic and tropical medicine is especially urgent.

The program for such advanced students will naturally vary in individual cases and must be approved by the Professor of Tropical Medicine before submission to the Administrative Board.

Special Clinical Work: There are opportunities from time to time for one or more students to attend clinical work for longer or shorter periods at the Boston City Hospital, where there is a service for tropical and foreign diseases under Dr. George C. Shattuck of the Department. There are also opportunities for special clinical work in several hospitals or in the different laboratories situated in the tropics with which Harvard University is connected.

Research in Tropical and Foreign Medicine

The research work in progress includes studies in relation to the Harvard-African Expedition to Liberia and the Belgian Congo; on the etiology of yellow fever; on certain protozoa of animals and reptiles; on the separation of trichomonads from bacteria and measurement of their ability to grow in pure cultures of bacteria; on the killing and growth-inhibiting effects of oxygen for bacteria, molds, yeasts, spirochaetes, and protozoa; on the ability of a trichomonad of man to grow and multiply indefinitely in faeces diluted with tapwater and in frogs and tadpoles; on the cultivation and life-cycles of amoebae and the pathogenicity of amoebae; on immunity and susceptibility of mosquitoes to infection with malaria; entomological studies of the parasitic and blood-sucking insects of Liberia and the Belgian Congo, and of the mosquito fauna of Cuba; and studies on *Ternidens deminutus* and new parasitic round-worms.

PUBLIC HEALTH ADMINISTRATION

WILSON G. SMILLIE, A.B., M.D., Dr.P.H., *Professor of Public Health Administration.*

GEORGE H. BIGELOW, A.B., M.D., Dr. P.H., *Lecturer on Public Health Administration and Commissioner, Department of Public Health of Massachusetts.*

CHARLES V. CHAPIN, A.B., M.D., Sc.D., *Lecturer on Public Health Administration and Superintendent of Health, City of Providence.*

CLARENCE L. SCAMMAN, A.B., M.D., C.P.H., *Associate in Public Health Administration and Deputy Commissioner, Department of Public Health of Massachusetts.*

HERBERT L. LOMBARD, A.B., M.D., M.P.H., *Assistant in Public Health Administration and Epidemiologist, Department of Public Health of Massachusetts.*

EDWARD A. LANE, A.B., M.D., C.P.H., *Assistant in Public Health Administration and State District Health Officer.*

FILIP C. FORSBECK, B.S., M.S., M.D., *Research Fellow in Public Health Administration.*

Special lectures in this course during the year 1928-29 were given by the following:

DR. W. S. RANKIN, *Director of the Hospital Section, The Duke Endowment.*

DR. CHARLES V. CHAPIN, *Superintendent of Health, Providence, R. I.*

DR. FRANK G. BOUDREAU, *Health Section, League of Nations, Geneva, Switzerland.*

DR. ALBERT J. CHESLEY, *Executive Officer, Minnesota State Board of Health.*

DR. KENNETH F. MAXCY, P.A., *Surgeon, U. S. Public Health Service, Washington.*

DR. JOHN A. FERRELL, *Director for the United States, International Health Division, Rockefeller Foundation.*

MR. MICHAEL M. DAVIS, *Director for Medical Services, Julius Rosenwald Fund, Chicago.*

DR. W. F. WALKER, *Field Director, American Public Health Association.*

Public Health Administration A

One hour (9-10), three mornings a week (Monday, Wednesday, and Friday), for four months (September 23-February 1).

Field work — All day Thursday, for four months (September 26-January 30).

Lectures: The theory of public health administration is developed by a study of the administrative methods actually employed in various governmental units, including municipalities, counties, states, and the federal government, with comparative studies of public health administration in various foreign countries. The lectures are given by the Professor of Public Health Administration, the State Health Commissioner of Massachusetts and his staff, and by Dr. Chapin, Superintendent of Health in Providence, R. I. Certain phases of public health administration are covered by special lecturers who are invited from time to time to cover those particular fields upon which they can speak with authority.

Each student compiles his own textbook during the course, using a loose-leaf system. The notes on the lectures are supplemented by pamphlets, reprints, forms, and references to specific phases of the work, and the current literature is abstracted, so that at the end of the course the student has a nucleus for a public health reference library which can be enlarged from year to year.

Conferences: Each student is allowed to choose some specific governmental unit and must develop a suitable and complete plan of public health administration for this unit. He shall coördinate his training in vital statistics, bacteriology, child hygiene, epidemiology, sanitary engineering, etc., and apply this knowledge in the organization of a theoretical department, making suitable budgets for each division, determining the number of personnel, and outlining the activities of the various bureaus.

These outlines will be discussed by the students in general conference, one student presenting his theoretical organization and leading the discussion, the other students making constructive criticisms and suggestions.

Field Studies and Demonstrations: These are arranged for Thursday from October through January. Active coöperation has been effected with the Health Department of the City of Boston, the Massachusetts State Department of Public Health and the activities of the U. S. Public Health Service in and around Boston; also with the City Department of Health of Providence, R. I., Newton, Mass., and others.

A wide variety of special fields in public health administration is available for observation and study by the students, including large and

small city health departments, rural boards of health, departments of school medical inspection, communicable disease control, milk and other food handling and inspection, water and sewage plants, industrial medicine, health units, clinics for the control of tuberculosis and venereal disease, health examinations, contagious disease hospitals, etc.

Public Health Problems

Two hours (2-4 P.M.) Tuesday and Thursday (September 24-October 31). Dr. SMILLIE.

Voluntary course open to students of the Medical School.

In each exercise some special problem in public health administration will be considered. The problem will be assigned to one of the students in advance and will be presented by him in the class exercise for general consideration and discussion.

Research in Public Health Administration

Special opportunities to investigate certain problems in federal, state, or city health administration are afforded to students who are specially qualified.

PHYSIOLOGY

CECIL K. DRINKER, S.B., M.D., *Professor of Physiology.*

LAWRENCE T. FAIRHALL, Ph.D., *Assistant Professor of Physiology.*

LOUIS A. SHAW, A.B., *Instructor in Physiology.*

Physiology A

Two hours (9-11), two mornings a week (Tuesday and Thursday), for three months (February 3-May 1).

The close alliance of physiology as related to the problems of hygiene and of ventilation and illumination renders it desirable that students register for the entire period covered by these two courses. In exceptional cases, however, opportunity may be given to take physiology, or ventilation and illumination separately.

The following subjects will be discussed during the hours devoted to physiology.

Respiration: The physiology of respiration will be reviewed and will lead to a discussion of the effects of high and low atmospheric pressure, carbon monoxide, carbon dioxide, and the commoner non-toxic dusts. The necessary physiological features of rescue apparatus will be demonstrated. Such matters as deep breathing, shallow breathing, resisted

breathing, vital capacity, cough and pulmonary edema will be considered in relation to their hygienic significance.

Circulation: The physiology of blood formation and blood destruction will be followed by a discussion of lymph formation and lymph drainage. The general circulation will be reviewed with particular reference to the physiology of cardiovascular breakdown and the methods now available for testing circulatory efficiency.

Fatigue and Repair: The physiological organization of the neuromuscular apparatus will be reviewed and will be followed by a discussion of such subjects as fatigue and repair in physiological processes, practice, exercise, and industrial fatigue.

Hearing and Vision: A brief discussion of the physiology of hearing and vision with special reference to the physiology of tests for acuity of both these senses will be given.

No regular laboratory exercises accompany this course which consists of lectures, demonstrations, conferences, and assignments of reading.

Physiology B

One and a half hours (2-3.30 P.M.), two afternoons a week (Tuesday and Thursday), for six weeks (April 1-May 15).

A voluntary course for those whose contact with clinical work may have aroused interest in what constitutes normal good health. The lectures and demonstrations will indicate some of the applications of physiology to hygiene. During the year 1929-1930 the subject considered will be the objective evaluation of physical fitness. The rationale of tests and simple methods of observation designed to define the physical condition of the individual will be discussed and criticised.

Research in Physiology

Properly qualified students will be given opportunities to work in the laboratory provided they can spend at least six months of undivided time.

Nutrition A

LAWRENCE T. FAIRHALL, B.S., A.M., Ph.D., *Assistant Professor of Physiology.*

Lectures: One hour (2-3), three afternoons a week (Monday, Wednesday, and Friday), for two months (March 3-May 3). Laboratory: Two hours (3-5), three afternoons a week (Monday, Wednesday, and Friday), for two months (March 3-May 3).

This is an advanced course which will include lectures, conferences, and assigned reading upon the chemistry and physiology of nutrition, par-

ticularly from the viewpoint of large groups of people. It will include the more vital and practical aspects of metabolism and diet. Especial attention will be directed to modern problems in the economics of food production, distribution, utilization and food control.

During the course visits will be made to various plants producing and handling articles of food.

An opportunity for laboratory work will be given to properly qualified students. It will consist of a study of the more important practical methods of metabolism; the determination of the caloric value of food-stuffs; the determination of the protein fat and carbohydrate values of foods; the importance of the ash constituents from the viewpoint of mineral metabolism and the micro-analytical rating of foods with respect to spoilage, contamination, and adulteration.

VENTILATION AND ILLUMINATION

PHILIP DRINKER, S.B., Ch.E., *Assistant Professor of Ventilation and Illumination.*

CONSTANTIN P. YAGLOU, A.B., M.E., M.M.E., *Instructor in Ventilation and Illumination.*

THEODORE HATCH, S.M., *Instructor in Sanitary Engineering.*

R. M. THOMSON, *Assistant in Ventilation and Illumination.*

CARLTON E. BROWN, Ch.E., M.S., *Research Fellow in Ventilation and Illumination.*

Hygiene of Ventilation and Illumination A

Two hours (9-11), two mornings a week (Tuesday and Thursday), for three months (February 4-May 1). Asst. Professor DRINKER, Messrs. YAGLOU, HATCH, and THOMSON.

Lectures and demonstrations on the hygienic, rather than the engineering, aspects of ventilation and illumination. The course is given in close coöperation with the Department of Physiology of the School of Public Health.

The lectures and demonstrations cover the following general topics:

Physical properties of the air and their physiologic influence upon the human body: The influence of temperature, humidity, and air motion upon health, comfort, metabolism, and industrial output of efficiency.

Atmospheric Impurities: The physiological significance of particulate impurities—dusts, fumes, and smokes—their determination, their physical, physiological, and chemical nature, and their permissible concentrations in the air of work places. The physiological significance of gaseous impurities and the amounts permissible in air.

Barometric Pressure: The significance of abnormally high or low barometric pressures and their effect upon health and performance of work.

Illumination: Studies of glare, diffusion, speed of vision, visual acuity, and their importance in various occupations. Industrial and domestic illumination, determination of optimum illumination intensities as related to eye fatigue, output, and accidents.

Several of the lectures and demonstrations will be given by the Department of Physiology and will include such subjects as respiration, circulation, carbon monoxide poisoning, and resuscitation.

Sanitary Air Analysis

Three hours (9-12), three mornings a week (time to be arranged), for four months (February to May, inclusive). Asst. Professor DRINKER, Messrs. HATCH and YAGLOU.

Measurement and interpretation of adverse conditions found in work places of all types, such as factories and mills, and in assembly halls. Methods employed in determining (a) physical properties of the air, such as temperature, humidity, and air motion; (b) atmospheric impurities — gases and dusts, and normal constituents of the air; (c) efficiencies of protective devices — masks, respirators, mechanical dust collecting apparatus, hoods and exhausters; (d) efficiencies of air-conditioning equipment. Emphasis will be placed upon the character of the reports submitted.

Ventilation Engineering and Air Conditioning

One and one-half hours (2-3.30) two afternoons a week (Tuesday and Thursday), for three months (February, March, and April). Asst. Professor DRINKER, Messrs. YAGLOU and HATCH.

Design, construction, and operation of ventilation and air conditioning equipment for assembly halls, schools, hospitals, factories, mines, etc. (not for ordinary residences). Lectures and problems supplemented by demonstrations and inspection trips.

Research in Ventilation and Illumination

A limited number of qualified students will be given an opportunity to do research work on any of the subjects covered in the three courses offered by this Department.

At present three research problems are under study: (1) the dust generated in the use of pneumatic tools for cutting and drilling hard rock;

(2) atmospheric pollution in its relation to visible and ultra-violet solar radiation, and (3) air conditioning in its relation to comfort, health, and the performance of work.

INDUSTRIAL MEDICINE

ALICE HAMILTON, M.D., A.M., *Assistant Professor of Industrial Medicine.*

W. IRVING CLARK, A.B., M.D., *Instructor in Industrial Medicine.*

ROBERT S. QUINBY, M.D., *Instructor in the Practice of Industrial Medicine.*

LOUIS R. DANIELS, M.D., *Instructor in the Practice of Industrial Medicine.*

FRANK E. SCHUBMEHL, M.D., *Assistant in Industrial Medicine.*

HAROLD W. STEVENS, A.B., M.D., *Assistant in Industrial Medicine.*

NOEL G. MUNROE, A.B., M.D., *Assistant in Industrial Medicine.*

HALSTEAD G. MURRAY, M.D., *Assistant in Industrial Medicine.*

Industrial Medicine A

W. IRVING CLARK, AB., M.D., *Instructor in Industrial Medicine.*

One hour (10.15–11.15), two mornings a week (Tuesday and Saturday), for one month (September 23–October 19).

This course is arranged to meet the requirements of students who desire a survey of industrial medicine and methods of industrial practice. It will include demonstrations and lectures on:

The Public Health Aspect of Industrial Medicine.

The Technique of Establishing and Running a Medical Department in Industry.

The Clinical Side of Industrial Medicine with Special Emphasis on those Conditions most Frequently Encountered.

Methods of Coördination of Work with other Departments in Industry.

Factory Sanitation.

Safety Engineering — Compensation.

Industrial Toxicology A

ALICE HAMILTON, M.D., A.M., *Assistant Professor of Industrial Medicine.*

One hour (10.15–11.15), two mornings a week (Tuesday and Saturday), for three months (October 22–February 1).

This is an advanced course which will include lectures, conferences, and assigned reading upon the industrial poisons together with visits to factories and definite studies of field conditions.

VITAL STATISTICS

EDWIN B. WILSON, Ph.D., *Professor of Vital Statistics.*

CARL R. DOERING, M.D., D.Sc., *Assistant Professor of Vital Statistics.*

EDWARD P. HUTCHINSON, A.B., *Assistant in Vital Statistics.*

Vital Statistics A

A1. One hour (9-10), two mornings a week (Tuesday and Saturday), for four months (September 24-February 1).

A2. One hour and a half (11.15-12.45), three mornings a week (Tuesday, Thursday, and Saturday), for four months (February 3-May 31).

The elementary course in Vital Statistics will consist of lectures, recitations, and written work designed to familiarize the student (1) with the general facts already well established in demography, (2) with the methods of graphical representation, (3) with methods of calculation and use of averages, (4) with types of rates and their adjustment, (5) with the basic theory of probability including errors of sampling, (6) with association (Yule) and correlation, (7) with arithmetic and geometric trends, and (8) as time permits with such supplementary special topics, population-theory (Pearl or Knibbs), epidemiological theory (Ross or Brownlee), frequency functions, or analysis of morbidity as may be of especial interest from year to year. So far as is practical students will be encouraged to select a problem of especial interest to them to carry through the course and work up in accordance with the various statistical methods developed.

The course is divided into two parts either of which may, with the consent of the instructor, be taken separately:

A1, descriptive statistics, covering (1), (2), (3), and (4)

A2, inductive statistics, covering (5), (6), (7), and (8).

The first part deals with the collection, arrangement and analysis of statistical data to represent or describe a given situation; the second part discusses the bases of comparability of similar statistical situations and the conditions governing the layout of a survey or investigation so that the data obtained may be of value for inferential purposes.

Text: G. C. WHIPPLE, *Vital Statistics.*

M. J. ROSENAU, *Preventive Medicine*, Chap. XXX, by
C. R. DOERING.

References: ARNE FISHER, *Mathematical Theory of Probabilities.*

G. U. YULE, *Introduction to the Theory of Statistics.*

Vital Statistics B

Students who have a satisfactory elementary knowledge of statistics will be directed in their reading of more advanced portions of Vital Statistics, including the theory of frequency curves or other matters listed under (8) in Course A. A knowledge of the elements of the infinitesimal calculus though not a prerequisite is desirable, and for certain topics is indispensable. Students who plan to take Vital Statistics B should consult the instructor early to ascertain whether those topics which they desire especially to study require any additional training in mathematics (Biomathematics A or a course in some other school).

Biomathematics A

One hour (3-4) two afternoons a week (Tuesday and Thursday) for two months (October and November), and longer if there is sufficient demand for it.

Lectures on certain aspects of mathematics in their relation to the biological sciences. Arithmetic and algebra, symbolism, permanence of form, exponents, permutations and combinations, binomial theorem, constants and variables, uniform rates, uniformly varying rates (accelerations), integrated rates, areas, limits of quotients and sums, infinitesimals, functions, differentials, derivatives, integrals, law of organic growth (Malthus), logarithms, exponentials, inverse functions, mathematical tables, interpolation, summation, law of unimolecular reaction, law of autocatalytic or buffer action, environmental inhibition of growth, treatment of experimental data, empirical equations and the determination of natural laws, probability, curve-fitting, the statistical or kinetic view of equilibrium in nature.

Research in Vital Statistics

Opportunities for special research work in Vital Statistics are open to students whether specializing in Vital Statistics or primarily in some other field of work, who desire to make a statistical investigation of their own connected with public health, or who may desire to coöperate in the general program of statistical research of the department.

Investigations are in progress or planned: with respect to hospital statistics of particular diseases using the large amount of material available in the hospitals associated with the School; with respect to the incidence of diseases in coöperation with industries which may desire such investigations as a rational basis of the health programs for their employees; with respect to the inter-relations of Vital Statistics and economic or social phenomena; and with respect to those problems of statistics which may be of special and immediate consequence to the State Department of Health.

Research in Biomathematics

Opportunities are offered to students who desire to pursue the quantitative and theoretical sides of various biological problems of a non-statistical nature or of a nature statistical in another sense than generally implied in the technical term Vital Statistics.

The Statistical Laboratory

The laboratory for instruction and research in Vital Statistics is housed on the second floor of the building of the School of Public Health on Van Dyke Street, and is equipped with various graphical and mechanical aids including sorting, tabulating and calculating machinery.

SANITARY ENGINEERING

GORDON M. FAIR, S.B., *Associate Professor of Sanitary Engineering.*

MELVILLE C. WHIPPLE, *Assistant Professor of Sanitary Chemistry.*

PHILIP DRINKER, S.B., Ch.E., *Assistant Professor of Ventilation and Illumination.*

THEODORE HATCH, S.M., *Instructor in Sanitary Engineering.*

The Principles of Sanitary Engineering A

Three hours (9-12), three mornings a week (Monday, Wednesday, and Friday), for four months (February 3-May 31), at Pierce Hall, Cambridge.

Asst. Professors FAIR, WHIPPLE, and DRINKER, and Mr. HATCH.

A course of lectures and laboratory work arranged especially for students in the School of Public Health. The lectures will cover the following topics: (a) Water Supply and Water Purification; (b) Plumbing; (c) Sewerage and Sewage Treatment; (d) Collection and Disposal of Municipal Wastes; (e) Ventilation; (f) Illumination; (g) City Planning; (h) Building Sanitation; (i) Rural Sanitation; (j) Food Sanitation; (k) Industrial Sanitation; (l) School Sanitation; (m) Camp Sanitation; (n) Sanitation of Transportation Facilities.

In the laboratory the students will have opportunity to become familiar with the apparatus and instruments used in connection with studies of water purification and sewage treatment and ventilation and illumination; they will be taught how to interpret water and food analyses and how to read engineering plans. In the field they will be taught how to make sketches and reports of engineering works. Arrangements will be made for students to visit water purification works, sewage treat-

ment works and other works of sanitation in the vicinity of Boston, accompanied by an instructor.

Sanitary Chemistry and Biology B

Three hours (2-5), three afternoons a week (Monday, Wednesday, and Friday) for four months (October, November, December, and January).

Asst. Professor WHIPPLE.

Laboratory methods employed in the study of sanitary projects; microscopy of water and sewage; physical, chemical, and bacteriological methods of sanitary analysis; field work in limnology, stream pollution and plant operation.

Research in Sanitary Engineering

There is opportunity for properly qualified students to pursue advanced work in subjects relating to the field of sanitary engineering. During the past year departmental research was carried on in the following subjects: stream pollution; sludge digestion; corrosion of water conduits; theory of water filtration.

MENTAL HYGIENE

C. MACFIE CAMPBELL, M.A., B.Sc., M.D., *Professor of Psychiatry.*

HENRY B. ELKIND, M.D., Dr.P.H., *Assistant in Mental Hygiene.*

With the coöperation and assistance of special lecturers, instructors, and assistants.

Mental Hygiene A

Two hours (9-11), three mornings a week (Tuesday, Thursday, and Saturday), for two months (April 1-May 31).

This course, under the direction of Professor Campbell, offers the student opportunity for becoming familiar with the general field of mental hygiene and with its relations to other aspects of public health.

Mental Hygiene covers not only the traditionally recognized conditions of mental disorder ("Insanity") and defect ("Feeble-mindedness"): it deals also with manifold forms of apparent physical incapacity (including the "psychoneuroses"), with many social problems (prostitution, alcoholism, vagrancy), with maladjustments in home, in school, in industry.

The course will include a review of the fundamental principles of abnormal psychology, of the main types of mental abnormality, of the prevention, management and treatment of the personal and social

factors involved in these disorders, and of the organization by the community of the necessary facilities for dealing with these problems.

The course will consist of lectures, clinical demonstrations, visits to hospitals, courts and other organizations, with supervised reading and opportunities for intensive clinical study along special lines (neurosyphilis, school hygiene, delinquency).

Elementary Mental Hygiene

Mondays 4 to 5 P.M., for ten weeks, beginning the middle of March.

This is a preliminary course on Medical Psychology given to the first-year medical students, consisting of lectures by Professor CAMPBELL.

Research in Mental Hygiene

Students holding the degree of Doctor of Medicine who satisfy the professor of their qualifications to do advanced work in Mental Hygiene may spend from one to six months under the guidance of Professor Campbell, working at the Boston Psychopathic Hospital.

CHILD HYGIENE

RICHARD M. SMITH, A.B., M.D., Sc.D., *Assistant Professor of Child Hygiene.*

HAROLD C. STUART, Litt.B., M.D., *Assistant Professor of Child Hygiene.*

JOSEPHINE G. O'BRIEN, R.N.

M. LUISE DIEZ, M.D., *Instructor in Child Hygiene.*

FLORENCE L. MCKAY, A.B., M.D., *Instructor in Child Hygiene.*

STANTON GARFIELD, M.D., *Assistant in Child Hygiene.*

With the coöperation of special lecturers.

Child Hygiene A

Lectures: One hour (10.15-11.15), three mornings a week (Monday, Wednesday, and Friday), for four months (September 23-February 1).

Field Work: All day Thursday, for four months (September 26-January 30), in conjunction with Public Health Administration A.

The entire day Thursday, during October, November, December, and January, is reserved for observation of work in the field done under public and private direction. This time is divided between Public Health Administration and Child Hygiene; but many of the expeditions will be arranged to allow observation of activities in both fields. The actual Thursdays which will be devoted to Child Hygiene will be arranged between the Departments.

The State Department of Public Health and the Boston City Health Department offer facilities for the study at first hand of well organized Divisions of Child Hygiene. Prenatal clinics, post-natal baby clinics, child welfare clinics, and work among school children will be demonstrated in actual operation. Illegitimacy will be presented through the work of the Florence Crittendon Home. Work for handicapped children will be discussed in connection with visits to the State School at Wrentham, the State Hospital School at Canton, the Judge Baker Foundation, and the Perkins Institute in Watertown. Lectures on other special subjects of child hygiene will be given and visits made to associations in and near the city.

Students taking Child Hygiene A will also be expected to attend Tuesday afternoon exercises given in connection with Child Hygiene B.

During the year 1928-29 special lectures and instruction were given by the following:

Mr. Edward Allen.	Maynard Ladd, M.D.
W. Lloyd Aycock, M.D.	Florence McKay, M.D.
Miss Mabel C. Bragg.	Charles McKhann, M.D.
John A. Ceconi, M.D.	Fredrika Moore, M.D.
Merrill Champion, M.D.	Miss Florence Patterson.
Robert D. Curtis, M.D.	Sumner H. Remick, M.D.
Robert L. DeNormandie, M.D.	Miss Marion McK. Rice.
M. Luise Diez, M.D.	Lyman G. Richards, M.D.
Mr. Philip Drinker.	Mr. Carl Schraeder.
Miss Abigail A. Eliot.	Mr. Eugene Smith.
Paul Emerson, M.D.	Miss Mabel Strong.
John E. Fish, M.D.	Douglas A. Thom, M.D.
William Healy, M.D.	James Townsend, M.D.
Percy R. Howe, M.D.	Arthur Wallace, M.D.
Mr. C. C. Jones.	Miss Hazel Wedgwood.
Foster S. Kellogg, M.D.	Charles F. Wilinsky, M.D.
Arman Klein, M.D.	Miss Mabel R. Wilson.

Child Hygiene B

Tuesday and Thursday, 2-5 P.M., November 5-December 19.

Tuesday afternoons will be spent at the School in lectures and conferences on public health aspects of childhood. On Thursday afternoons visits will be made to health units and other centers where various phases of child hygiene are being applied. This course will not be given for less than five students and is limited to fifteen.

Child Hygiene C

For students who have completed Child Hygiene A it will be possible by special arrangement with the head of the department to devote additional time to child hygiene, and to follow the various phases of the work for a longer period of time and at closer range than can be done during the course of Child Hygiene A. Particular attention may be given to School Hygiene with inspection of buildings and detailed observation of medical inspection and physical education. Students may be assigned to hospital and child welfare clinics where they will be given an opportunity to take responsibility and share in the conduct of the work.

Research in Child Hygiene

There will be an opportunity for qualified students to investigate any phase of child hygiene. The results of such special studies may be published by the student if approved by the head of the department.

COURSES IN OTHER DIVISIONS OF THE UNIVERSITY

Students in the School of Public Health may take courses in other departments of the University subject to the following conditions: (1) Students must be properly qualified; (2) the consent of the professor in charge of the course must be obtained in each case; (3) the approval of the Administrative Board of the School of Public Health must be procured before one of these courses may be included as a part of a program.

MEDICAL SCHOOL

The Medical School is very closely affiliated with the School of Public Health, and the courses offered are open to students in this School. Of special interest to students in public health is the very unusual group of courses offered by the Medical School on Tuesday and Thursday afternoons, covering a wide range of subjects. A special bulletin is issued describing these courses. The research facilities of some departments of the Harvard Medical School present valuable opportunities for students in public health.

COURSES FOR GRADUATES

Graduate courses in the Medical School, most of which last one month, are offered, from October to June, to graduates of Class A medical schools. Another group of short courses is given from June 1st to September 30th. These courses are open also to properly qualified under-

graduate students and women. Courses in Surgery and Roentgenology and in Pediatrics have been found especially valuable for public health students.

DENTAL SCHOOL

The Dental School is affiliated with the School of Public Health and is situated nearby so that students in this School who are interested in any aspect of dental work may take advantage of the courses offered in that School.

GRADUATE SCHOOL OF EDUCATION

Public health students who are planning to teach public health or who wish to make a study of the educational side of public health may take courses in the Graduate School of Education, which offers such courses as The Principles of Educational Psychology and Mental Hygiene, School Hygiene, The Clinical Testing of Children, Problems in Mental and Physical Development, etc.

GRADUATE SCHOOL OF BUSINESS ADMINISTRATION

Students specializing in Industrial Hygiene or Public Health Administration may take special courses in the Graduate School of Business Administration, such as Industrial Management, Business Statistics, etc.

COURSES IN MASSACHUSETTS INSTITUTE OF TECHNOLOGY

The School of Public Health maintains close coöperation with the Massachusetts Institute of Technology. A group of courses given at the Massachusetts Institute of Technology, but not listed in this catalogue, is open to the students in the School of Public Health, and may, with the approval of the Administrative Board, be included in a general program and will be counted toward a degree.

OPPORTUNITIES FOR CLINICAL WORK BY SPECIAL ARRANGEMENT

The Harvard School of Public Health can frequently make arrangements for students desiring special clinical work in the various local hospitals. Clinical courses in Industrial Surgery and in Roentgenology have been arranged at the Massachusetts General Hospital and the Boston City Hospital.

STUDENTS

- Almánzar, Pedro José, M.D. (*National University, Bogotá*) 1927, Bogotá, Colombia
General Course.
- Ashenden, Barbara J., B.S. (*Connecticut College for Women*) 1921, Watertown, Conn.
Vital Statistics.
- Barzilai, Gemma Vivaldi, M.D. (*University of Graz and University of Rome*) 1922, Trieste, Italy
General Course.
- Finn-Brown, Grace Imogene, B.S. (*Simmons Coll.*) 1925, Boston, Mass.
Vital Statistics.
- Fleming, William Donaldson, M.D. (*Univ. of Colorado*) 1917, Washington, D. C.
Ventilation and Illumination.
- Fukushima, Mitsuho, M.D. (*Kyoto Imperial University*) 1922, Okazaki City, Japan
Child Hygiene.
- Godinho, Rane, M.D. (*Bahia Medical School*) 1916, Bahia, Brazil
Biologic Products.
- Gomoiu, Ianuaric, M.D. (*Medical School of Bucharest*) 1927, Bucharest, Roumania
General Course.
- Haines, Anna J., A.B. (*Bryn Mawr Coll.*) 1907, Moorestown, N.J.
Vital Statistics.
- Heller, Emery, M.D. (*University of Budapest*) 1924, Budapest, Hungary
Physiology, Ventilation and Illumination.
- Julien, Pierre Louis, M.D. (*Medical Faculties of Nancy and Montpellier*) 1923, Herault, France
General Course.
- Jurado, Manuel Hernandez, M.D. (*Medical School, Guatemala*) 1927, Guatemala, C. A.
Child Hygiene.
- Killiches, Walter, M.D. (*Faculty of Medicine, University of Vienna*) 1924, Wien, Austria
General Course.
- Kusama, Yoshio, M.D. (*Stanford University*) 1920, Tokyo, Japan
Child Hygiene.

- Li, Ting-an, M.D. (*Peking Union Medical Coll.*) 1926, Peking, China
General Course.
- Montoya, José M., M.D. (*Harvard Medical School*)
 1897, Bogotá, Colombia
Child Hygiene.
- Parsons, Louise Harriet, Brookline, Mass.
Vital Statistics.
- Pergher, Giuseppe, M.D. (*Univ. of Rome*) 1924, Rome, Italy
General Course.
- Rosen, Zitha A., A.B. (*Radcliffe Coll.*), Dorchester, Mass.
Vital Statistics.
- Russell, Paul Farr, M.D. (*Cornell Univ.*) 1921, Boston, Mass.
General Course.
- del Valle, Roberto, M.D. (*Escuela Nacional de Medicina*) 1923, Mexico City, Mexico
General Course.
- Yü, Ho, M.D. (*Peking National Medical Coll.*) 1923, Peking, China
General Course.

DEGREES

On June 21, 1928, Degrees were conferred as follows:

DOCTOR OF PUBLIC HEALTH

Jones, John Lewis, B.S. (*Utah Agricultural Coll.*)
 1915, M.D. (*Harvard Univ.*) 1925, Louisville, Ky.
Special Field, Child Hygiene.
Thesis, "Certain Aspects of Whooping Cough."

MASTER OF PUBLIC HEALTH

Chandrasekharaiya, Tumkur, A.B. (*Central Coll.,
 Bangalore*) 1921, M.B. and B.S. (*Medical Coll.,
 Madras*) 1926, Mysore State, S. India

Harden, Robert DuRant, M.D. (*Atlanta Coll. of Phy-
 sicians and Surgeons*) 1911, Washington, D.C.

Lee, Walter Wilfrid, M.B. (*Faculty of Medicine, Univ.
 of Toronto*) 1922, Indianapolis, Ind.

Rao, Bapu Anantha Swamy, B.Sc. (*Central Coll.,
 Bangalore*) 1921, M.B. and B.S. (*Medical Coll.,
 Madras*) 1926, Mysore State, S. India

TABULAR VIEW

	OCTOBER	NOVEMBER	DECEMBER	JANUARY
A.M. Monday, Wednesday Friday	Public Health Administration A 9-10 Child Hygiene A 10.15-11.15 Epidemiology A 11.30-12.30 (Mon. and Wed. only)	Public Health Administration A 9-10 Child Hygiene A 10.15-11.15 Epidemiology A 11.30-12.30. (Mon. and Wed. only)	Public Health Administration A 9-10 Child Hygiene A 10.15-11.15 Epidemiology A 11.30-12.30 (Mon. and Wed. only)	Public Health Administration A 9-10 Child Hygiene A 10.15-11.15 Epidemiology A 11.30-12.30 (Mon. and Wed. only)
A.M. Tuesday Saturday	Vital Statistics A1 9-10 Industrial Toxicology A 10.15-11.15 Epidemiology A 11.30-12.30 (Tuesday only)	Vital Statistics A1 9-10 Industrial Toxicology A 10.15-11.15 Epidemiology A 11.30-12.30 (Tuesday only)	Vital Statistics A1 9-10 Industrial Toxicology A 10.15-11.15 Epidemiology A 11.30-12.30 (Tuesday only)	Vital Statistics A1 9-10 Industrial Toxicology A 10.15-11.15 Epidemiology A 11.30-12.30 (Tuesday only)
Thursday All Day	Field Work in Public Health Administration, Epidemiology, and Child Hygiene A	Field Work in Public Health Administration, Epidemiology, and Child Hygiene A	Field Work in Public Health Administration, Epidemiology, and Child Hygiene A	Field Work in Public Health Administration, Epidemiology and Child Hygiene A
P.M. Monday Wednesday Friday	Bacteriology A 2-5 Medical Zoology and Tropical Medicine A 2-5	Bacteriology A 2-5 Medical Zoology and Tropical Medicine A 2-5	Bacteriology A2-5 Medical Zoology and Tropical Medicine A 2-5	Bacteriology A 2-5 Medical Zoology and Tropical Medicine A 2-5
	FEBRUARY	MARCH	APRIL	MAY
A.M. Monday Wednesday Friday	Sanitary Engineering A 9-12	Sanitary Engineering A 9-12	Sanitary Engineering A 9-12	Sanitary Engineering A 9-12
Tuesday Thursday Saturday	Hygiene of Ventilation and Illumination A Physiology A 9-11 (Tues. and Thurs. only) Vital Statistics A2 11.15-12.45	Hygiene of Ventilation and Physiology A 9-11 (Tues. and Thurs. only) Vital Statistics A2 11.15-12.45	Illumination A Physiology A 9-11 (Tues. and Thurs. only) Mental Hygiene A 9-11 Vital Statistics A2 11.15-12.45	Mental Hygiene A 9-11 Vital Statistics A2 11.15-12.45
P.M. Monday Wednesday Friday	Parasitology A 2-5 Biologic Products A 2-5	Nutrition A—Lecture 2-3 Nutrition A—Laboratory 3-5	Nutrition A—Lecture 2-3 Nutrition A—Laboratory 3-5	

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The Annual Reports of the President and of the Treasurer.

The Annual University Catalogue.

The Annual Catalogues of the College and the several Professional Schools of the University; the Descriptive Pamphlet; the Announcements of the several Departments; etc., etc.